



**University of
Zurich**^{UZH}

**Zurich Open Repository and
Archive**

University of Zurich
University Library
Strickhofstrasse 39
CH-8057 Zurich
www.zora.uzh.ch

Year: 2019

Sex Trade Among Youth: A Global Review of the Prevalence, Contexts and Correlates of Transactional Sex Among the General Population of Youth

Krisch, Maria ; Averdijk, Margit ; Valdebenito, Sara ; Eisner, Manuel

Abstract: Transactional sex, the casual exchange of sexual favors for money or gifts, has been associated with negative outcomes and health risks, particularly among youth. This global review of the evidence explores trends of buying and selling sex among the general population of male and female youth across 28 countries. It compares the differences and similarities in prevalence rates between genders (male versus female), sex trading activities (selling versus buying), and country income groups (high-income versus low- and middle-income countries) and examines the relationships and situations surrounding transactional sex, and its correlates. The screening of reports resulted in the inclusion of 37 manuscripts (N = 120,447 participants), involving peer review and grey literature describing longitudinal and cross-sectional research across 7 high-income and 21 low- and middle-income countries. The review of prevalence rates suggests relatively low rates of transactional sex in high-income countries (with selling and buying rates below 10% in all countries) and relatively high, although varying rates, in low- and middle-income countries (with selling and buying rates of 60% or higher in seven countries). Gender disaggregated data suggests that boys are more likely than girls to sell sex in high-income countries while the opposite seems to be true in low- and middle-income countries. The findings suggest that initial contact between sellers and buyers is most often established through friends, acquaintances, and dating websites. The age of onset is around 15 years, many sellers and buyers already know each other before trading sex, and they are often of a similar age. Money is the most commonly used form of compensation. Correlates of selling sex include involvement in other risky sexual behaviors, substance use, infection with sexually transmitted diseases, mental health problems, family break-up, and a history of victimization. No or mixed relations have been found with socioeconomic and educational status. The correlates of buying sex include promiscuity, substance use, violence perpetration and, to some extent, higher socioeconomic status. Recommendations for future research are discussed.

DOI: <https://doi.org/10.1007/s40894-019-00107-z>

Posted at the Zurich Open Repository and Archive, University of Zurich

ZORA URL: <https://doi.org/10.5167/uzh-181298>

Journal Article

Published Version



The following work is licensed under a Creative Commons: Attribution 4.0 International (CC BY 4.0) License.

Originally published at:

Krisch, Maria; Averdijk, Margit; Valdebenito, Sara; Eisner, Manuel (2019). Sex Trade Among Youth: A Global Review of the Prevalence, Contexts and Correlates of Transactional Sex Among the General Population of Youth. *Adolescent Research Review*, 4(2):115-134.
DOI: <https://doi.org/10.1007/s40894-019-00107-z>



Sex Trade Among Youth: A Global Review of the Prevalence, Contexts and Correlates of Transactional Sex Among the General Population of Youth

Maria Krisch¹ · Margit Averdijk² · Sara Valdebenito¹ · Manuel Eisner^{1,2}

Received: 11 October 2018 / Accepted: 3 December 2018 / Published online: 23 February 2019
© The Author(s) 2019

Abstract

Transactional sex, the casual exchange of sexual favors for money or gifts, has been associated with negative outcomes and health risks, particularly among youth. This global review of the evidence explores trends of buying and selling sex among the general population of male and female youth across 28 countries. It compares the differences and similarities in prevalence rates between genders (male versus female), sex trading activities (selling versus buying), and country income groups (high-income versus low- and middle-income countries) and examines the relationships and situations surrounding transactional sex, and its correlates. The screening of reports resulted in the inclusion of 37 manuscripts (N = 120,447 participants), involving peer review and grey literature describing longitudinal and cross-sectional research across 7 high-income and 21 low- and middle-income countries. The review of prevalence rates suggests relatively low rates of transactional sex in high-income countries (with selling and buying rates below 10% in all countries) and relatively high, although varying rates, in low- and middle-income countries (with selling and buying rates of 60% or higher in seven countries). Gender disaggregated data suggests that boys are more likely than girls to sell sex in high-income countries while the opposite seems to be true in low- and middle-income countries. The findings suggest that initial contact between sellers and buyers is most often established through friends, acquaintances, and dating websites. The age of onset is around 15 years, many sellers and buyers already know each other before trading sex, and they are often of a similar age. Money is the most commonly used form of compensation. Correlates of selling sex include involvement in other risky sexual behaviors, substance use, infection with sexually transmitted diseases, mental health problems, family break-up, and a history of victimization. No or mixed relations have been found with socioeconomic and educational status. The correlates of buying sex include promiscuity, substance use, violence perpetration and, to some extent, higher socioeconomic status. Recommendations for future research are discussed.

Keywords Transactional sex · Buying sex · Selling sex · Youth · Adolescents

Introduction

Transactional sex among youth, or the casual exchange of sexual favors for money or gifts, has only recently become a focus of research. While it shares many characteristics with commercial prostitution, it differs in a number of ways. Whereas in many countries, commercial prostitution is considered a profession, transactional sex is mostly viewed as the informal trading of sex, experimental, and of low frequency (Fredlund et al. 2013; Svedin and Priebe 2007). In addition, while for many juvenile sex workers involvement in the commercial sex market is a main source of income, transactional sex generally supplements other income sources (Jewkes et al. 2012b; Fredlund et al. 2013). Different from many commercial

✉ Maria Krisch
marialenakrisch@gmail.com

Margit Averdijk
margit.averdijk@jacobscenter.uzh.ch

Sara Valdebenito
sv331@cam.ac.uk

Manuel Eisner
mpe23@cam.ac.uk

¹ Institute of Criminology, University of Cambridge, Cambridge, UK

² Jacobs Center for Productive Youth Development, University of Zurich, Zurich, Switzerland

sex workers, young people who engage in transactional sex also report that they are selective about their customers and the sexual acts that they perform, and that they do not view themselves as sex workers (Kaufman and Stavrou 2004; Luke and Kurz 2002; Nnko et al. 2001). As a result of these differences, public health research typically differentiates transactional sex from commercial prostitution.

Transactional sex has been linked to various maladaptive outcomes and health risks, including sexually transmitted diseases, physical or sexual violence, delinquency, substance abuse, psychological problems, and physical illnesses, although the majority of studies has been cross-sectional and therefore unable to establish causality (Dunkle et al. 2007; Haley et al. 2004; Svedin and Priebe 2007). Youth seem to be particularly vulnerable as they are more susceptible to risk-taking behavior, including unprotected sex, than adults. As suggested by previous research, sexual risk-taking along with substance use and conduct problems, are the main explanatory factors of morbidity and mortality among young people (Mustanski et al. 2013). One reason might be that youth have not yet reached cognitive maturity and often lack the ability to assess long-term consequences, potentially leading to negative effects on their physical and emotional health (Saphira and Oliver 2002) which can extend into later life. In addition, transactional sex may have negative consequences for youth sellers as it has been linked to power imbalances with buyers, most notably large age differences (with sellers being much younger than buyers) and differences in economic resources (with sellers having much less access to these than buyers) (Luke 2003, 2005). Recent research suggests, however, that transactional sex also occurs to a large extent between same-aged peers, and that both genders report selling and buying sex (Lavoie et al. 2010; Fredlund et al. 2013; Svedin and Priebe 2007; Choudhry et al. 2014).

As official statistics on the prevalence of transactional sex among youth are lacking, researchers have used self-report studies to gauge the extent of the phenomenon. Although several of these have focused on high-risk populations (e.g., homeless and runaway youth, delinquent youth, substance users, and victims of abuse; Edwards et al. 2006a; Haley et al. 2004), the past decade has seen an increasing number of studies that have examined involvement in transactional sex in the general population of youth. The extent to which young people are involved in transactional sex may differ across the geographical regions of the world. Individual studies have documented varying rates, but there is a limited knowledge of large-scale variation across geographic regions. An improved understanding of the global scale as well as variations at the national and regional levels can help to identify gaps in knowledge and support future prevention and intervention research.

Prior reviews of youth in transactional sex have studied specific sub-populations, often with a focus on one gender (male or female) and one sex trading activity (buying or selling), in a limited number of countries. Examples include a summary of the literature on the prevalence of HIV among men who engage in transactional sex (Oldenburg et al. 2014), a systematic review of sexually exploited boys (Moynihan et al. 2018), a review of the risk factors of selling sex among women in humanitarian crises (Formson and Hilhorst 2016), and a review of studies on transactional sexual relations in African countries (Luke and Kurz 2002; Stoebe et al. 2016). Prior reviews fall short, however, in analyzing the differences and commonalities of transactional sexual relations among male and female youth as they engage in both sides of the sex trade (buying and selling). To date, there is also no review that compares and contrasts patterns of transactional sexual relationships in different regions of the world.

The Current Study

This study fills existing gaps by summarizing the evidence base on transactional sex among general population samples of male and female youth around the world and comparing the differences and similarities between genders (male versus female), sex trading activities (selling versus buying), and country income groups as defined by the World Bank (2017) (high-income versus low- and middle-income countries). This review also examines the commonalities in the contexts in which transactional sex occurs and discusses frequently cited risk factors linked to buying and selling sex. Understanding transactional sex and its correlated risks, may guide practitioners to develop early intervention programs to prevent the consequences of these practices. At the same time, the analysis of its specific impact on different genders and cultures would contribute to specify effective tailored responses for these highly vulnerable groups.

Methods

Search Strategies

The authors conducted electronic searches in three comprehensive databases (e.g., Web of Science, PsychInfo, and Google Scholar) for all empirical studies on transactional sex published up to May 28th, 2017. These extensive searches were conducted to identify and retrieve an exhaustive collection of empirical studies, thus minimizing the possibility of publication bias. Electronic searches were complemented with a revision of the list of references of retrieved articles. All references were scanned to find additional studies.

Published and unpublished studies from any country, whose title and abstract were written in English, were explored. Searches were conducted using a selected set of keywords, in various different combinations (“adolescen*”, “youth*”, “boy”, “girl”, “teen”, “young”, “juvenile”), (“sell* sex”, “buy* sex”, “transactional sex”). The searches were combined with the use of Boolean terms as appropriate (e.g., “OR”, “AND”).

Criteria for Inclusion or Exclusion

For the purpose of the present review, included studies met the following criteria. First, sources explored for inclusion were book chapters (e.g., Lee and Shek 2014), journal articles, government and NGO studies (e.g., De Graaf et al. 2005), and academic PhD theses (e.g., Choudhry 2015). Second, a number of relevant studies written in languages other than English were identified by going through the reference lists of articles. Relevant information in these articles was translated and included in the analysis (Mossige 2001; De Graaf et al. 2005). Third, since the aim of this review was to examine a general population sample of youth such as those in schools, young people from high-risk populations were excluded from this review. For instance, manuscripts reporting transactional sex among AIDS-orphaned and AIDS-affected adolescents (e.g., Cluver et al. 2013) or young people living on the street (e.g., McClair et al. 2017) were excluded from this study. Fourth, the review follows the United Nations’ definition (2013) of youth as the age cohort 15 to 24 (e.g., Atwood et al. 2012). Any relevant studies that fitted within the United Nations’ definition of youth but diverged from the lower or upper age limit by 2 years (e.g., 12 years and 26 years) were also included in this review (e.g., Dunkle et al. 2007). Studies reporting transactional sex among older samples were excluded from the study (e.g., Magni et al. 2015). Finally, any qualitative studies were excluded because of this study’s focus on statistical information (e.g., Eller 2016; Song and Morash 2016).

Data Extraction

A protocol for data extraction was defined by the first author and agreed with the other authors. Data were extracted from full-text articles by the first author and reviewed by a senior member of the team. Any disagreements were discussed among the authors. Data extracted was annotated in PDF versions of articles and recorded in a spreadsheet. Extracted data included characteristics of the studies (e.g., publication year, country of the sample, size of the sample, methodological design, reporting period, type of transactional sex studied—buying versus selling sex), characteristics of participants (e.g., sex, nationality, age), and statistical outputs (e.g., prevalence rates for buying and selling sex disaggregated by

sex, correlations). A senior member of the team reviewed the annotated PDFs and coding spreadsheets to ensure that data was accurately recorded. When the information reported in the manuscript was unclear or contentious, senior members of the team were consulted for further input on what should be recorded. 2 contentious cases were identified and discussed among authors. Upon closer investigation, these two cases included the same data and only one of the articles was included (Moore et al. 2007). Mendely software was used to manage references, citations, and documents.

Results

Initial online searches yielded over 7020 hits. After removing duplicates and assessing eligibility, 37 studies were found that matched the inclusion criteria of this review. Included studies were published between January 1, 1990 and May 28, 2017.

Table 1 lists all 37 studies. The first studies were conducted in the 1990s (five studies), but the majority was conducted after 2000 (32 studies). Two pairs of studies were based on the same sample (Choudhry 2015; Choudhry et al. 2014; Fredlund et al. 2013; Svensson et al. 2013) and three studies comprised findings from separate waves in a prospective design (Lee and Shek 2013, 2014; Lee et al. 2016). Thus, the total number of unique studies was 33. Combined, all unique studies that reported sample size data (27 out of 33) had a sample size of 120,447 participants. The sample size ranged from 80 (Nyanzi et al. 2001) to 13,294 (Edwards et al. 2006b) and was on average 3011 participants. Almost all studies were cross-sectional. Only two longitudinal studies were found (Jewkes et al. 2016; Lee et al. 2016). Data collection methods varied, with most studies administering self-completed, paper-based questionnaires, and others online questionnaires, audio-computer assisted questionnaires, or structured face-to-face interviews using standardized questions. Out of all 37 studies, 19 were conducted in Sub-Saharan Africa, four in North America, 11 in Western Europe, and three in Asia.

Measurement

No standardized instrument currently exists for measuring transactional sex. Items used in the included studies typically referred to accepting money or gifts for sexual favors (selling sex) and giving money or gifts for sexual favors (buying sex). The types of gifts, such as drugs, cell phones, shelter, and food, were sometimes, but not always, specified in the items. In this article, transactional sex is defined as casual sex between two people that is motivated by the expectation to receive material rewards in exchange for sexual favors. The reference period was usually the past 12 months or

Table 1 Studies on transactional sex with general population samples of youth

Source	Site	Sample size	Age	Gender	Activity	Study design	Reference period
Atwood et al. (2012)	Liberia (urban)	714	14–17 years	Female and male	Selling and buying	Cross-sectional	Lifetime
Betzer et al. (2015)	Germany (urban)	4386	24.4 years on average	Female and male	Selling	Cross-sectional	–
Carolina Population Center (2003) ¹	USA	–	18–26 years	–	Selling	Cross-sectional	–
Chatterji et al. (2005)	Kenya	3170	15–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Zambia	3592	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Zimbabwe	1533	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Benin	1790	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Burkina Faso	2301	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Central African Republic	2297	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Chad	2753	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Guinea	2290	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Mali	3244	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Niger	2759	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Nigeria	2395	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
	Togo	3332	15–19 years and 20–24 years	Female and male	Selling and buying	Cross-sectional	Last 12 months
Choudhry (2015)	Uganda (urban)	1954	23 years on average; majority aged 20–24 years	Female and male	Selling and buying	Cross-sectional	Lifetime
Choudhry et al. (2014)	Uganda (urban)	1954	≤ 24 years (72%) and > 24 years (28%)	Female and male	Selling and buying	Cross-sectional	Lifetime
Cottler et al. (1990)	USA	–	–	Female and male	Selling	Cross-sectional	Lifetime
de Graaf et al. (2005) ²	Netherlands	4821	12–25 years	Female and male	Selling and buying	Cross-sectional	Lifetime
Dunkle et al. (2007)	South Africa (rural)	1288	15–26 years	Male	Selling and buying	Cross-sectional	Lifetime
Edwards et al. (2006b)	USA	13,294	16.2 years on average	Female and male	Selling	Cross-sectional	Lifetime
Fredlund et al. (2013)	Sweden	3498	18.3 years on average	Female and male	Selling	Cross-sectional	Lifetime
Helweg-Larsen (2003) ³	Denmark	6203	15–16 years	Female and male	Selling	Cross-sectional	–
Jewkes et al. (2012a)	South Africa	1077	15–26 years	Female	Selling	Cross-sectional	Lifetime
Jewkes et al. (2012b)	South Africa	1645	18–24 years	Male	Buying	Cross-sectional	Lifetime
Jewkes et al. (2016)	South Africa	1370	15–26 years	Male	Selling and buying	Longitudinal	Lifetime

Table 1 (continued)

Source	Site	Sample size	Age	Gender	Activity	Study design	Reference period
Komba-Malekela and Liljestrom (1994) ⁴	Tanzania (urban)	—	14–19 years	—	Selling	—	Lifetime
Lavoie et al. (2010)	Canada (urban)	815	15–18 years	Female and male	Selling and buying	Cross-sectional	Lifetime
Lee and Shek (2013)	China	3638	13.6 years on average	Female and male	Selling	Cross-sectional	Lifetime and last 12 months
Lee and Shek (2014)	China	3239	15.5 years on average	Female and male	Selling	Cross-sectional	Last 12 months
Lee et al. (2016)	China	2921	13.6 years on average in 2010–2011, 14.7 years on average in 2011–2012, 15.5 years on average in 2012–2013	Female and male	Selling	Longitudinal	Lifetime and last 12 months (3 waves)
Machel (2001) ⁴	Mozambique (urban)	182	14–20 years	Female	Selling	Cross-sectional	—
Mossige (2001)	Norway (urban)	713	18–20 years	Female and male	Selling	Cross-sectional	—
Meekers and Calvès (1999)	Cameroon	—	12–17 years and 18–22 years	Female and male	Selling and buying	Cross-sectional	Lifetime
Moore et al. (2007)	Burkina Faso	5955	12–19 years	Female and male	Selling	Cross-sectional	Last 12 months
	Ghana	4430	12–19 years	Female and male	Selling	Cross-sectional	Last 12 months
	Malawi	4031	12–19 years	Female and male	Selling	Cross-sectional	Last 12 months
	Uganda	5112	12–19 years	Female and male	Selling	Cross-sectional	Last 12 months
Mossige and Abrahamsen (2007)	Norway	4911	18–20 years	Female and male	Selling	Cross-sectional	—
Nyanzi et al. (2001)	Uganda (rural)	80	12–20 years	Female	Selling	Cross-sectional	Lifetime
Okigbo et al. (2014)	Liberia	439	14–25 years	Female	Selling	Cross-sectional	Lifetime
Pedersen and Hegna (2003)	Norway (urban)	10,828	14–17 years	Female and male	Selling	Cross-sectional	Last 12 months
Population Reference Bureau (2001) ⁴	Kenya	—	15–19 years	Female	Selling	Cross-sectional	Recently
	Mali	—	15–19 years	Female	Selling	Cross-sectional	Recently
	Uganda	—	15–19 years	Female	Selling	Cross-sectional	Recently
	Zambia	—	15–19 years	Female	Selling	Cross-sectional	Recently
	Zimbabwe	—	15–19 years	Female	Selling	Cross-sectional	Recently
Ranganathan et al. (2016)	South Africa (rural)	693	13–20 years	Female	Selling	Cross-sectional	Lifetime
Renzaho et al. (2017)	Uganda	623	13–24 years	Female and male	Selling	Cross-sectional	Last 12 months
Svedin and Priebe (2007)	Sweden	4339	18.15 years on average	Female and male	Selling	Cross-sectional	Lifetime
Svensson et al. (2013)	Sweden	—	18.3 years on average	Female and male	Selling	Cross-sectional	—
Thorensen (1995) ¹	Norway	—	13–17 years	—	Selling	Cross-sectional	Last 12 months
Vejle Amt (2005) ¹	Denmark	2410	15–16 years	Female and male	Selling	Cross-sectional	—
Weiss et al. (1996) ⁴	Nigeria	—	16 years or older	Female	Selling	Cross-sectional	Lifetime

Table 1 (continued)

Source	Site	Sample size	Age	Gender	Activity	Study design	Reference period
Zembe et al. (2015)	South Africa (peri-urban)	259	16–24 years	Female	Selling	Cross-sectional	Last 12 months

¹Cited in Svedin and Priebe (2007)

²Cited in Walle et al. (2012)

³Cited in Fredlund et al. (2013)

⁴Cited in Luke and Kurz (2002)

the respondent's lifetime, but it was not always reported. Table 2 provides examples of questionnaire items that have been used in existing studies on transactional sex. Although there have been exceptions (e.g., Jewkes et al. 2016), studies have typically used one or two items to measure either selling or buying sex. Thirty-five studies reported on selling sex and nine studies reported on buying sex (the total number of studies is higher as some studies reported on both). One study measured involvement in transactional sex, but it did not distinguish between selling and buying (Chatterji et al. 2005).

Below, prevalence estimates are presented first. The 37 studies included in this review provide prevalence estimates for 28 countries. The results from high-income countries are compared to results from low- and middle-income countries. Next, the situations and relationships surrounding transactional sex are described. Differences between country income groups are described where applicable. Subsequently, research on the correlates of involvement in transactional sex is presented.

Prevalence of Transactional Sex

High-Income Countries

The review identified 15 studies with prevalence estimates on transactional sex in seven high-income countries as defined by the World Bank (2017) (e.g., countries with a GNI per capita of \$12,056 or higher in 2017). Most studies (11 out of 15) were conducted in Northern and Western Europe (Norway, Sweden, Denmark, Germany, and Netherlands); the remaining four in North America (the USA and Canada). Six studies used lifetime reference periods, two provided past-year rates, and seven did not report the reference period. Fifteen studies reported on selling sex and three studies reported on buying sex (the total number of studies is higher as some studies reported on both). Prevalence estimates are provided in Table 3.

The results suggest that transactional sex is uncommon among youth in high-income countries. The highest overall selling rates among both male and female youth (combined rates) were reported in Germany (7%, reference period not

reported), followed by Canada (4%, lifetime prevalence) and the United States (2.8%, reference period not reported, and 3.5%, lifetime prevalence), while prevalence rates in other high-income countries were lower.

With the exception of the study by Lavoie et al. (2010) in Canada, which reported that three times as many female (6%) compared to male (2%) youth had sold sex, prevalence rates of selling sex were higher among males than females. Six out of seven studies with data for both, male and female youth, reported higher selling rates for males compared to females, ranging from 1.7% (lifetime) to 2.6% (reference period not reported) for males and 0.6% (last 12 months) to 2.3% (lifetime) for females.

Only three studies examined buying sex. In the Netherlands, prevalence rates were 6% for male and 1% for female 12- to 25-year-olds. In the United States, a study among female youth showed that 4% had ever bought sex. Finally, Lavoie et al. (2010) reported buying rates of 5% among male and 2% among female youth in Canada.

Low- and Middle-Income Countries

The search identified 22 studies on transactional sex in 21 low- and middle-income countries as defined by the World Bank (2017) [e.g., countries with a GNI per capita of \$995 or less (low-income countries) or between \$996 and \$12,055 (middle-income country) in 2017]. With the exception of one study in China, all were conducted in Sub-Saharan Africa. The higher number of studies may be due to the fact that transactional relationships are more widespread in these countries (Manganja et al. 2007; Nyanzi et al. 2001). Twelve studies used lifetime reference periods, four provided past-year rates, three studies used more than one reference period (e.g., lifetime, last 12 months, last 4 weeks), and two studies did not report a reference period. Twenty-two studies reported on selling sex while nine studies reported on buying sex. Prevalence estimates are provided in Table 4.

Data suggest that transactional sex is relatively common among youth in Sub-Saharan Africa. The highest rate for selling sex among female youth was reported in Uganda (85%, lifetime prevalence). Particularly high prevalence rates were recorded in six countries, with over 60% of

Table 2 Examples of questionnaire items to measure youth involvement in transactional sex

Selling sex (transactional sex): “Have you ever accepted money, a gift, or some form of compensation as payment for sexual relations?”	Cottler et al. (1990)
Buying sex (transactional sex): “Have you ever paid money or given a gift, or otherwise compensated for sexual relations?”	
Selling sex (transactional sex): “Have you ever had sex with someone because he or she promised to give you something that you needed or wanted?”	Atwood et al. (2012)
Buying sex (transactional sex): “Have you ever had sex with someone when you promised to give that person something that he or she needed or wanted?”	
Selling and buying sex – combined measure (transactional sex): “Have you given or received money, gifts, or favors in return for sex at any time within the last 12 months?”	Chatterji et al. (2005)
Selling sex to a casual main partner (transactional relationship): “Have you ever become involved with a roll-on/nyasti/makwaphehi because he provided you with or you expected that he would provide you with food, cosmetics, clothes, transportation, tickets or money for transport, items for children or family such as clothes, food or school fees, woman’s own school or residence fees, somewhere to sleep or cash”	Dunkle et al. (2004)
Buying sex from a casual main partner (transactional relationship): “Do you believe any of your main partners became involved with you because they expected you to provide them with, or because you provided them with food, cosmetics, clothes, transportation, items for children or family, school fees, somewhere to sleep, alcohol or a ‘fun night out’, or cash?”	Dunkle et al. (2007); Jewkes et al. (2012b)
Selling sex to a casual main partner (transactional relationship): “Did you become involved with a main partner because she provided you with or you expected that she would provide you with food, cosmetics, clothes, transportation, items for children or family, school fees, somewhere to sleep, alcohol or a ‘fun night out’, or cash?”	
Selling and buying sex (transactional sex): six questions asking about giving or receiving cash or goods/services in exchange for sex with a main partner, once-off partner or khwaphehi (secret on-going partner); each assessment was based on 8 possible transacted items	Jewkes et al. (2016)
Selling sex (transactional sex): “Have you ever had sexual intercourse with a stranger of either the same or the opposite sex for the sake of gaining money or material return (e.g., receiving a cell phone as a gift)?”	Lee and Shek (2014)
“During the past 12 months, have you ever had sexual intercourse with a stranger of either the same or the opposite sex for the sake of gaining money or material return (e.g., receiving a cell phone as a gift)?”	
Selling sex (transactional sex): “Have you ever received money, food, clothing, shelter, school fees, drugs, or liquor in exchange for sex?”	Okigbo et al. (2014)
Selling sex (transactional sex): “Have you, in the course of the recent 12 months, given sexual favors for payment?”	Pedersen and Hegna (2003)
Selling sex (transactional sex): “Did you feel like you had to have sex with [initials] because they gave you money”?; “Did you feel like you had to have sex with [initials] because they gave you things (such as airtime, cell phone, groceries, clothes or shoes, perfume or lotions, make-up, cool-drinks, sweets or chips, CDs, DVDs or videos, alcohol or drugs, flowers, other (specify))”?	Ranganathan et al. (2016)
Selling sex (transactional sex): “Have you been persuaded to have sex through gifts, money or other favors during the last 12 months?”	Renzaho et al. (2017)
Selling sex (transactional sex): “When my main partner has given me money, he expects me to do everything that he wants me to do.”	Zembe et al. (2015)
Selling sex (transactional sex): “Have you ever accepted money, a gift or some other form of compensation as payment for sexual relations?”	Choudhry et al. (2014)
Buying sex (transactional sex): “Have you ever paid money, or given a gift or otherwise compensated for sexual relations?”	

female youth reporting that they sold sex: Ghana (74.7%, last 12 months), Liberia (72%, lifetime), Malawi (80.5%, last 12 months), Mozambique (63%, reference period not reported), Tanzania (80%, lifetime), and Uganda (75%, last 12 months; 85% lifetime).

In contrast to high-income countries, where more males reported selling sex than females, all six studies that collected comparative data on selling sex for both sexes in Sub-Saharan Africa reported higher selling rates for female compared to male youth. Lifetime prevalence rates for selling sex among female youth in Sub-Saharan Africa ranged from 5% among 12- to 17-year-olds in Cameroon

(Meekers and Calvès 1999) to 85% among 12- to 20-year-olds in Uganda (Nyanzi et al. 2001). Few studies examined lifetime prevalence rates for selling sex among male youth. Among those that did, lifetime rates ranged from 6.6% among 15- to 26-year-olds in South Africa (Dunkle et al. 2007) to 12% among 14- to 17-year-olds in Liberia (Atwood et al. 2012). Compared to these estimates, the multi-country study by Moore et al. (2007) showed relatively high prevalence rates for some countries (e.g., Ghana: 33.3%, Uganda: 34.6% for males), but this study used a past-year reference period in a sample of youth who had been sexually active in the past 12 months.

Table 3 Prevalence rates of transactional sex in general population samples of youth in high-income countries

Country	Selling (females)	Buying (females)	Selling (males)	Buying (males)	Selling (males and females)	Buying (males and females)	Source	Reference period	Age
Canada	6.0%	2.0%	2.0%	5.0%	4.0%	3.0%	Lavoie et al. (2010)	Lifetime	15–18 years
Denmark	–	–	–	–	1.0%	–	Helweg-Larsen (2003) ³	–	15–16 years
Denmark	–	–	–	–	1.6%	–	Vejle Amt (2005) ¹	–	15–16 years
Germany	–	–	–	–	7.0%	–	Betzer et al. (2015)	–	24.4 years on average
Netherlands	1.0%	1.0%	2.0%	6.0%	–	–	Graaf et al. (2005) ²	Lifetime	12–25 years
Norway	0.7%	–	2.6%	–	–	–	Mossige (2001)	–	18–20 years
Norway	< 1%	–	1–3%	–	–	–	Mossige and Abrahamson (2007)	–	18–20 years
Norway	0.6%	–	2.1%	–	1.4%	–	Pedersen and Hegna (2003)	Last 12 months	14–17 years
Norway	–	–	–	–	1.3%	–	Thorensen (1995) ¹	Last 12 months	13–17 years
Sweden	–	–	–	–	1.5%	–	Svensson et al. (2013)	–	18.3 years on average
Sweden	1.2%	–	1.7%	–	1.5%	–	Fredlund et al. (2013)	Lifetime	18.3 years on average
Sweden	1.0%	–	1.8%	–	1.4%	–	Svedin and Priebe (2007)	Lifetime	18.5 years on average
USA	–	–	–	–	2.8%	–	Carolina Population Centre (2006) ¹	–	18–26 years
USA	2.0%	4.0%	–	–	–	–	Cottler et al. (1990)	Lifetime	–
USA	2.3%	–	–	–	3.5%	–	Edwards et al. (2006b)	Lifetime	16.2 years on average

¹Cited in Svedin and Priebe (2007)²Cited in Walle et al. (2012)³Cited in Fredlund et al. (2013)

Only two studies explicitly asked about buying sex among female youth. These found that 6.2% (reference period not reported) of female youth in Uganda (Choudhry et al. 2014) and 8.2% (lifetime) in Liberia (Atwood et al. 2012) had ever bought sex. Lifetime prevalence rates of buying sex among males ranged from 14% in Cameroon (Meekers and Calvès 1999) and Liberia (Atoowd et al. 2012) to 60.4% in South Africa (Jewkes et al. 2012b).

There were substantial differences in prevalence estimates for some studies that were conducted in the same country, for example between studies in Liberia (Atwood et al. 2012; Okigbo et al. 2014), Malawi (Moore et al. 2007), South Africa (Dunkle et al. 2007; Jewkes et al. 2012a, b; Ranganaathan et al. 2016; Zembe et al. 2015), and Uganda (Choudhry et al. 2014; Moore et al. 2007; Nyanzi et al. 2001; Population Reference Bureau 2001). These differences are due to

Table 4 Prevalence rates of transactional sex in general population samples of youth in low- and middle-income countries

Country	Selling (females)	Buying (females)	Selling (females)	Buying (males)	Selling (males and females)	Buying (males and females)	Source	Reference period	Age
Benin	13.8% (combined rate)	—	—	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Benin	4.1% (combined rate)	—	29.8% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Burkina Faso	8.3% (combined rate)	—	26.1% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Burkina Faso	1.2% (combined rate)	—	22.3% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Burkina Faso	35.9%	—	5.1%	—	—	—	Moore et al. (2007)	Last 12 months	12–19 years
Cameroon	5.0%	—	—	14.0%	—	—	Meekers and Calvès (1999)	Lifetime	12–17 years
Cameroon	15.0%	—	—	30.0%	—	—	Meekers and Calvès (1999)	Lifetime	18–22 years
Central African Republic	6.8% (combined rate)	—	17.9% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 4 weeks	15–19 years
Central African Republic	5.8% (combined rate)	—	22.3% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 4 weeks	20–24 years
Chad	5.3% (combined rate)	—	48.4% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Chad	2.4% (combined rate)	—	31.7% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
China	—	—	—	—	0.4% (lifetime), 0.4% (last 12 months)	—	Lee and Shek (2013)	Lifetime and last 12 months	13.6 years on average
China	—	—	—	—	0.6%	—	Lee and Shek (2014)	Last 12 months	15.5 years on average
China	—	—	—	—	0.2% in 2010–2011, 0.4% in 2011–2012, 0.6% in 2012–2013 (lifetime) 0.2% in 2010–2011, 0.4% in 2011–2012, 0.4% in 2012–2013 (last 12 months)	—	Lee et al. (2016)	Lifetime and last 12 months	13.6 years on average in 2010–2011, 14.7 years on average in 2011–2012, 15.5 years on average in 2012–2013
Ghana	74.7%	—	33.3%	—	—	—	Moore et al. (2007)	Last 12 months	12–19 years

Table 4 (continued)

Country	Selling (females)	Buying (females)	Selling (males)	Buying (males)	Selling (males and females)	Buying (males and females)	Source	Reference period	Age
Guinea	6.6% (combined rate)	—	10.3% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Guinea	4.6% (combined rate)	—	5.5% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Kenya	13.5% (combined rate)	—	17.6% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Kenya	7.9% (combined rate)	—	20.9% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Kenya	21.0%	—	—	—	—	—	Population Reference Bureau (2001) ¹	recently	15–19 years
Liberia	13%	8%	12%	14%	17% ³ (combined rate)	—	Atwood et al. (2012)	Lifetime	14–17 years
Liberia	72.0%	—	—	—	—	—	Okigbo et al. (2014)	Lifetime	14–25 years
Malawi	80.5%	—	9.3%	—	—	—	Moore et al. (2007)	Last 12 months	12–19 years
Mali	13.2% (combined rate)	—	21.1% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Mali	8.0% (combined rate)	—	23.6% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Mali	26.0%	—	—	—	—	—	Population Reference Bureau (2001) ¹	Recently	15–19 years
Mozambique	63.0%	—	—	—	—	—	Machel (2001) ²	—	14–20 years
Niger	2.0% (combined rate)	—	40.1% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Niger	2.2% (combined rate)	—	21.0% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Nigeria	13.0% (combined rate)	—	26.8% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Nigeria	8.5% (combined rate)	—	17.2% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Nigeria	18.0%	—	—	—	—	—	Weiss et al. (1996) ²	Lifetime	≥ 16 years
South Africa	—	—	6.6%	17.7%	—	—	Dunkle et al. (2007)	Lifetime	15–26 years

Table 4 (continued)

Country	Selling (females)	Buying (females)	Selling (males)	Buying (males)	Selling (males and females)	Buying (males and females)	Source	Reference period	Age
South Africa	8.7%	—	—	—	—	—	Jewkes et al. (2012a)	Lifetime	15–26 years
South Africa	—	—	—	60.4%	—	—	Jewkes et al. (2012b)	Lifetime	18–24 years
South Africa	—	—	22% (combined rate)	—	—	—	Jewkes et al. (2016)	Lifetime	15–26 years
South Africa	14%	—	—	—	—	—	Ranganathan et al. 2016	Lifetime	13–20 years
South Africa	42%	—	—	—	—	—	Zembe et al. 2015	Last 12 months	12–24 years
Tanzania	80.0%	—	—	—	—	—	Komba-Malekela and Liljestrom (1994) ²	Lifetime	14–19 years
Togo	9.3% (combined rate)	—	14.3% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Togo	3.3% (combined rate)	—	12.4% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Uganda	15.2%	6.2%	10.1%	22.7%	25.4%	—	Choudhry et al. (2014)	Lifetime	≤24 years (77.2%) and > 24 years (22.8%)
Uganda	15.2%	6.2%	10.1%	22.7%	12.5%	14.9%	Choudhry (2015)	—	—
Uganda	75.0%	—	34.6%	—	—	—	Moore et al. (2007)	Last 12 months	12–19 years
Uganda	85.0%	—	—	—	—	—	Nyanzi et al. (2001)	Lifetime	12–20 years
Uganda	31.0%	—	—	—	—	—	Population Reference Bureau (2001) ¹	Recently	15–19 years
Uganda	7.4% (combined rate)	—	—	—	—	—	Renzaho et al. 2017	Last 12 months	13–24 years
Zambia	26.6% (combined rate)	—	40.0% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	15–19 years
Zambia	12.3% (combined rate)	—	34.3% (combined rate)	—	—	—	Chatterji et al. (2005)	Last 12 months	20–24 years
Zambia	38.0%	—	—	—	—	—	Population Reference Bureau (2001) ¹	Recently	15–19 years
Zimbabwe	7.3% (combined rate)	—	—	—	—	—	Chatterji et al. (2005)	Last 4 weeks	15–19 years

Table 4 (continued)

Country	Selling (females)	Buying (females)	Selling (males)	Buying (males)	Selling (males and females)	Buying (males and females)	Source	Reference period	Age
Zimbabwe	4.1% (combined rate)	—	—	—	—	—	Chatterji et al. (2005)	Last 4 weeks	20–24 years
Zimbabwe	13.0%	—	—	—	—	—	Population Reference Bureau (2001) ¹	Recently	15–19 years

¹Cited in Svedin and Priebe (2007)²Cited in Luke and Kurz (2002)³The prevalence rate represents the rate among the sample of people that replied to the transactional sex question (n = 714)

different item wordings, reference periods, sampling strategies, and timing.

There were also large differences in prevalence rates between countries in Sub-Saharan Africa. Although these may be due to different sampling strategies and items, a cross-national study that used comparable methods across 12 countries in Sub-Saharan Africa (Chatterji et al. 2005; Rutstein and Rojas 2006) found large variations in prevalence rates. The rates reported for Sub-Saharan Africa also differed from those in a longitudinal study in China, where the combined lifetime prevalence for selling sex among females and males was relatively low at 0.2% (wave one, last 12 months), 0.4% (wave two, last 12 months) and 0.6% (wave three, last 12 months) among a sample of high-school students (Lee et al. 2016). One study suggested that there might be differences in prevalence rates among age groups that fall within the UN definition of youth. According to one study that compared aged groups in various countries in Sub-Saharan Africa (Chatterji et al. 2005), 15- to 19-year-olds were more likely to engage in transactional sex than 20- to 24-year-olds.

Situations and Relationships Surrounding Transactional Sex

The included studies were reviewed regarding the situations and relationships in which transactional sex occurred. Unfortunately, relatively few studies provided such information, making generalizations difficult. This section describes the characteristics on which there exists at least some evidence (e.g., mentioned in two or more studies). These include ways of establishing initial contact with buyers, forms of compensation, the age of onset, as well as characteristics of sex partners.

Initial Contact

The most common way in which sellers and buyers initiate contact appears to be through friends and acquaintances and, increasingly, online. In Sweden, both boys (35%) and girls (30%) were most likely to meet buyers via friends and acquaintances (Svedin and Priebe 2007). According to a Canadian study, over 90% of transactional sex happened between friends and acquaintances (Lavoie et al. 2010). Across Sub-Saharan Africa, male peers often act as intermediaries between female sellers and male buyers because of the social norm that men should start explicit sexual negotiations (Nnko and Pool 1997; WHO 1992). Dating websites are also a common way to initiate sexual relationships in some high-income countries, but it is unknown whether similar patterns hold for Sub-Saharan Africa. For instance, 23% of American and 57% of Swedish youth engaging in transactional sex reported that their

initial contact with prospective buyers was online (Fredlund et al. 2013; Curtis et al. 2008).

Types of Compensation

Money seems to be the most common form of compensation. Across four countries in Sub-Saharan Africa, 93% or more of female youth involved in transactional sex reported that they received money for sexual activities, followed by clothes, jewelry, and cosmetics (Moore et al. 2007). Similar findings were reported in a South African study among male buyers of sex, where half reported exchanging cash for sexual favors rather than other types of compensation (Jewkes et al. 2012b). In Sweden, the majority of youth reported receiving money as a payment for sexual activities (Svedin and Priebe 2007; Fredlund et al. 2013). In contrast to teenagers in Sub-Saharan Africa, however, Swedish youth also frequently received alcohol and cigarettes (24%) or drugs (20%) in exchange for sexual favors (Fredlund et al. 2013).

Age of Onset

The evidence on the age of onset is still limited, but existing research from high-income countries suggests that the majority of youth was between 13 and 15 years old when they first engaged in transactional sex. For example, in a Canadian study of adolescents aged 15 to 18, 57% of buyers were between 14 and 15 years old, while 63% of sellers were aged 13 to 15 years (Lavoie et al. 2010). Similarly, in a Swedish study, the mean age of onset among boys and girls who received sex for money or gifts was 15.6 years (Svedin and Priebe 2007). It is unclear whether this age pattern holds in low- and middle-income countries.

Characteristics of Sex Partners

Studies across various countries have found that less than a quarter of girls who had sold sex had partners that were more than 10 years older than themselves (Luke and Kurz 2002; Nnko et al. 2001; Gregson et al. 2002; Görden et al. 1998; Kelly et al. 2003; Kekovole et al. 1997; Lavoie et al. 2010; Chatterji et al. 2005; Matasha et al. 1998; Kaufman and Stavrou 2004; Nyanzi et al. 2001). For example, Svedin and Priebe (2007) reported that about half of all buyers were of a similar age as the sellers (between 15 and 25 years old), whereas roughly one-third of buyers was aged 26–35 years, and the remainder was older than 36 years.

Correlates of Transactional Sex

Sexual Behavior

Findings suggest that youth involved in selling sex are more promiscuous, have an earlier sexual debut, and are more likely to consume pornographic content. Studies in different regions of the world have found a significant link between selling sex and having a higher number of sexual partners (e.g., Betzer et al. 2015 for Germany; Svedin and Priebe 2007 for Sweden; Pedersen and Hegna 2003 for Norway; Edwards et al. 2006b for the USA; Atwood et al. 2012 for Liberia; Dunkle et al. 2007 for South Africa; and; Moore et al. 2007 for Uganda). However, a study in Ghana found a significant relation between selling sex and a lower number of sexual partners (Moore et al. 2007). The link between buying sex and a higher number of sexual partners has not been systematically studied.

Early sexual debut has also been associated with selling sex (Lavoie et al. 2010; Pedersen and Hegna 2003; Okigbo et al. 2014; Svedin and Priebe 2007). In Sweden, the average age of first intercourse for youth aged 14 to 18 who had sold sex was 14.4 years, which was significantly lower than for those who had not sold sex (15.6 years) (Svedin and Priebe 2007). While this study did not find gender differences, a Norwegian study reported that the association between selling sex and debut age was stronger in girls than boys (Pedersen and Hegna 2003). It is unknown whether the same pattern holds for buying sex.

Finally, the consumption of pornographic content or the observation of sexualized activities has been associated with the likelihood of selling sex. In Sweden, boys and girls who had sold sex watched online pornography more frequently than those who had not sold sex: 38% of boys who had sold sex watched pornography every day as compared to 9% in the reference group (Svedin and Priebe 2007). This study also found some gender differences in the type of porn being watched. Boys who had sold sex were more likely to watch porn involving violence, force, animals, and children compared to boys who had not sold sex, but the groups did not differ in their consumption of ordinary porn (e.g., non-violent sex between adults). Girls who had sold sex reported to have watched both ordinary and deviant types of pornography more often than girls who had not sold sex. In Canada, Lavoie et al. (2010) examined the association between transactional sex and promiscuity—measured through the observation of participation in nine sexualized social activities (these included wet T-shirt contests, striptease, same-sex kissing, imitation of fellatio with an object, dance contests in which people mime sexual positions, fellatio contests, group sex, and group masturbation). They found that while promiscuity was also significantly associated with buying sex for both genders, it was not linked to selling sex.

Substance Use

The use of legal and illegal substances has been widely shown to be associated with selling and buying sex (Betzer et al. 2015; Edwards et al. 2006b; Svedin and Priebe 2007; Choudhry et al. 2014; Dunkle et al. 2007; Pedersen and Hegna 2003; Okigbo et al. 2014; Lee and Shek 2013). For example, compared to other young people, American youth who had sold sex were significantly more likely to have ever consumed marijuana (54% vs. 35%), cocaine (24% vs. 4%), injection drugs (11% vs. less than 1%), and other illicit drugs (30% vs. 10%) (Edwards et al. 2006b).

In addition, studies in Sweden, Norway, and Liberia found strong correlations between a higher frequency of alcohol consumption and selling sex for both girls and boys (Svedin and Priebe 2007; Pedersen and Hegna 2003; Okigbo et al. 2014). In Liberia, 30.5% of girls who had ever engaged in transactional sex reported daily use of alcohol, compared to 13.1% in the reference group (Okigbo et al. 2014). However, studies in Germany, Uganda, and Canada found no such association (Betzer et al. 2015; Choudhry et al. 2014; Lavoie et al. 2010). Problematic alcohol use was also associated with buying sex among boys in South Africa (Dunkle et al. 2007) and Uganda (Choudhry et al. 2014). No relationship was found between buying sex and alcohol problems among Ugandan girls (Choudhry et al. 2014).

While there is some evidence for an association between substance use and selling sex, there is disagreement about the directionality. Substance use could be a consequence of involvement in transactional sex, as substances may numb the feelings of guilt and shame that were reported to accompany transactional sex in a Dutch study, particularly among girls (Walle et al. 2012). However, transactional sex could also be a means to finance addictions or a manifestation of psychosocial difficulties. The association between buying sex and substance abuse has not been systematically researched.

Sexual and Mental Health

Studies have consistently found statistically significant relations between sexually transmitted diseases and selling sex among both boys and girls (Betzer et al. 2015; Jewkes et al. 2012a, b; Atwood et al. 2011; Edward et al. 2006a, b). This may be due to the higher number of sexual partners among youth involved in transactional sex that was documented in various studies (e.g., Betzer et al. 2015 for Germany; Svedin and Priebe 2007 for Sweden; Pedersen and Hegna 2003 for Norway; Edwards et al. 2006b for the USA; Atwood et al. 2012 for Liberia; Dunkle et al. 2007 for South Africa; and; Moore et al. 2007 for Uganda). A study by Norris et al. (2009) suggests a possible link with substance abuse: Youth who traded sex and abused alcohol had a significantly higher

risk for sexually transmitted diseases compared to those who exchanged sex but did not have alcohol problems. It is unknown whether this pattern holds for youth who buy sex.

Youth who sell sex also display an elevated risk of mental health issues and depression (Choudhry et al. 2014; Edwards et al. 2006b; Reid and Piquero 2014; Pedersen and Hegna 2003; Svedin and Priebe 2007). In a Swedish study, more than half of female youth who sell sex reported that they felt that ‘everything was a struggle,’ had troubles sleeping, and felt unhappy, miserable, depressed, tied up, or tense (Svedin and Priebe 2007). Similarly, 22% of male and female sellers of transactional sex in an American study reported that they felt depressed, compared to 11% of youth who did not sell sex (Edwards et al. 2006b). This association was not studied for youth who buy sex.

Family Characteristics

Alcohol abuse at home can increase the likelihood of selling sex in both genders (Pedersen and Hegna 2003; Reid and Piquero 2014). For example, in a Norwegian study of youth aged 14–17 years, exposure to alcohol at home was twice as high in boys and girls who sold sex compared to the rest of the sample (Pedersen and Hegna 2003). Research has not examined the link between alcohol abuse at home and buying sex.

Studies in Sub-Saharan Africa, Sweden, and Norway found that growing up with a single parent or non-parental caretakers increased youth’s likelihood to sell sex (Choudhry et al. 2014; Fredlund et al. 2013; Pedersen and Hegna 2003). In Sweden, 48% of students who sold sex lived with both parents as compared to 61% of those who did not sell sex (Svedin and Priebe 2007). In Hong Kong, students with remarried parents reported significantly higher frequencies of transactional sex compared to those whose parents remained in their first marriage (Lee and Shek 2013). Also, being abandoned by both parents or living in orphan care has been linked to selling sex (Okigbo et al. 2014; Svedin and Priebe 2007; Moore et al. 2007). The association between buying sex and family break-up has not been systematically researched.

Findings on the influence of parenting style and family functioning on selling sex have been more mixed. Some studies have found a significant relation. For example, Fredlund et al. (2013) found that Swedish boys and girls who sold sex reported overly strict parenting, poorer parental care, and more difficulties sharing problems with family members and friends. Higher levels of family functioning, in turn, may be a protective factor (Lee and Shek 2013). In contrast to these findings, some studies found no significant difference in family functioning between youth who sold sex compared to youth who did not sell sex (Lee et al. 2016; Moore et al. 2007; Pedersen and Hegna 2003). Parenting

style and family functioning have not been studied for adolescent buyers of sex.

History of Violence in Childhood

One of the most widely examined correlates for transactional sex is being a victim of violence or abuse in childhood. Experiences of forced sexual activity in childhood have been related to buying and selling sex in both genders (Lavoie et al. 2010; Edwards et al. 2006b; Svedin and Priebe 2007; Okigbo et al. 2014; Choudhry et al. 2014; Dunkle et al. 2007). According to Edwards et al. (2006b), 17% of American girls and 10% of boys who had ever been forced into sexual activity sold sex, compared to 8% of girls and 2% of boys without such experiences. In a Swedish study, the majority (62%) of boys and girls who sold sex reported that they had experienced sexual abuse before they started selling sex (Svedin and Priebe 2007). Being a victim of physical violence more generally has also been correlated with selling sex (Pedersen and Hegna 2003). Girls may be more vulnerable than boys: two studies found a strong correlation between selling sex and severe victimization in girls but not boys (Choudhry et al. 2014; Pedersen and Hegna 2003). A Canadian study found no statistically significant link between buying sex and previous sexual victimization (Lavoie et al. 2010).

Perpetration was also linked to receiving money or gifts in exchange for sex in both genders, but the experience of sexually abusive behavior was more prevalent among boys (Lavoie et al. 2010; Dunkle et al. 2007; Svedin and Priebe 2007). Among youth who sold sex in Sweden, 43% answered that they had sexually abused another individual compared to 7% of youth who had not sold sex (Svedin and Priebe 2007). Being a perpetrator of gender-based violence also strongly predicted buying sexual favors among males in South Africa (Dunkle et al. 2007).

Socioeconomic Status

Several studies have examined the link between socioeconomic background and selling sex. Overall, findings suggest no relation between the two. For example, the study by Fredlund et al. (2013) found no differences in parents' socioeconomic situation between Swedish high-school students who sold sex and those who did not. Similar findings have been reported in other Scandinavian studies (Svedin and Priebe 2007; Pedersen and Hegna 2003). In addition, research among youth in secondary school in China showed that the youth's financial situation was not associated with transactional sex (Lee et al. 2016). In Sub-Saharan Africa, the results have been similar: Moore et al. (2007) reported that there were no significant associations between household wealth and selling sex in Burkina Faso, Ghana, Malawi, and

Uganda. Some studies have reported contrasting findings: young Liberian women who did not have a regular income in the past month were twice as likely to have sold sex compared to those who earned money (Okigbo et al. 2014). In contrast, in South Africa, higher socioeconomic status was related to selling sex (Dunkle et al. 2007). Regarding the buying of sex, two South African studies have reported a relation with higher socioeconomic status (Jewkes et al. 2012b; Dunkle et al. 2007).

Education

The majority of studies has found no significant relation between girls' educational status and selling sex (e.g., Choudhry et al. 2014 for Uganda; Fredlund et al. 2013 for Sweden). In Uganda, Malawi, and Ghana the completion of at least 6 years of schooling was not significantly associated with selling sex among girls, but it was linked to a lower likelihood of sex work in Burkina Faso (Moore et al. 2007). Similarly, Chatterji et al. (2005) found that in 12 countries in Sub-Saharan Africa, being in school was not predictive of selling sex in girls. A Swedish study found that male students who were enrolled in a practical or vocational program rather than general schooling were significantly more likely to have sold sex (Svedin and Priebe 2007), while another Swedish study did not find an association between the educational status of youth and selling sex (Fredlund et al. 2013). In Norway, male students who had sold sex had similar grades, but less knowledge of societal issues than male students who had not sold sex (Pedersen and Hegna 2003).

Among young men, findings on the relation between socioeconomic status and buying sex have been more mixed. In-school status seemed to mitigate the risk of transactional sex in the Central African Republic and Togo, facilitate it in Nigeria, and have no significant effect in the other eight African countries studied (Chatterji et al. 2005). A South African study found that young men with at least 10 years of education were less likely to buy sex than those with fewer years of schooling (Dunkle et al. 2007). Findings from Uganda and Sweden, on the other hand, found that youth's educational status was not associated with buying sex (Choudhry et al. 2014; Fredlund et al. 2013).

Discussion

Transactional sex has received an increasing amount of research attention in recent years as the topic of discussions regarding developmental understanding of adolescence, agency, empowerment, and exploitation (e.g., Fredlund et al. 2013; Stoebe et al. 2016; Wamoyi et al. 2011). Studies have shown that transactional sex is linked to various negative outcomes and health issues (Dunkle et al. 2007; Haley

et al. 2004), leading to the query to what extent transactional sex is to be seen as maladaptive. Considered a crime in some jurisdictions, perspectives on transactional sex range from accounts that view it as behavior uprooting the moral order and/or a form of sexual exploitation that is degrading for sellers to a form of sexual experimentation and empowerment of youth (Béné and Merten 2008; Leclerc-Madlala 2003).

Notwithstanding the important contributions of existing studies to the evidence-base on transactional sex among youth, gaps remain, which provide a roadmap for future studies on transactional sex. First, one of the most important research gaps is the lack of longitudinal studies. With the exception of two studies (Jewkes et al. 2016; Lee et al. 2016), all of the studies identified were cross-sectional, prohibiting conclusions regarding the time order between transactional sex and its correlates. Understanding this time order is crucial to identify potential pathways into transactional sex. Second, the distribution of studies is highly skewed geographically, with the majority of studies having been conducted in Sub-Saharan Africa and, to a lesser extent, Western Europe and North America. The search found few or no studies in other regions, such as Asia, Oceania, and Latin America. Studies in these parts of the world are encouraged. Third, most research has studied female sellers, whereas fewer studies have examined male sellers. Given that studies show that selling rates are higher among males than females in certain contexts (e.g., high-income countries), more attention for male sellers seems necessary. Fourth, as the majority of studies has examined the prevalence of selling sex, buying sex has received less attention. Studies that have reported on youth as buyers highlight the need for further research. Fifth, evidence on the situations and relationships surrounding transactional sex remains scant. More studies are needed to be able to generalize across contexts. Sixth, little is known about macro-level policy factors that may influence the probability of transactional sex. None of the reviewed studies examined the association of prostitution laws, national child protection programs, or other relevant policies (e.g., anti-discrimination laws, gender equality measures, wealth redistribution policies) with transactional sex. Overall, prior studies provide fertile ground for the development of a more encompassing research agenda on transactional sex that includes a focus on both genders, selling as well as buying activities, the longitudinal predictors of transactional sex, and the later consequences.

This article provides an overview of the prevalence, contexts, and correlates of selling and buying sex in general population samples of youth around the world. Overall, the findings show that there are large differences in prevalence rates between countries. Whereas studies suggest that transactional sex is not common among youth in high-income countries (e.g., de Graaf et al. 2005), with rates below 10%

in all countries, the results were more mixed for countries in Sub-Saharan Africa, where prevalence rates varied widely between countries. For example, lifetime selling rates among females in Sub-Saharan Africa ranged from 5 to 85% (Meekers and Calvès 1999; Nyanzi et al. 2001). There were sometimes considerable differences in prevalence rates between studies within the same country. One potential explanation may be differences in measurement instruments. There were substantial variations in item wordings, the number of items administered, and the reference period across included studies. Interestingly, those studies that provided prevalence rates by gender suggest that selling rates were higher among males than females in high-income countries (e.g., Mossige 2001; Pedersen and Hegna 2003), whereas the opposite was true in low-income countries (e.g., Moore et al. 2007). Compared to studies on selling sex, much less research has focused on prevalence rates of buying sex. Like selling sex, prevalence rates of buying sex were much higher in Sub-Saharan Africa compared to high-income countries (Jewkes et al. 2012b; Lavoie et al. 2010). Studies in both Sub-Saharan Africa and high-income countries reported higher buying rates among male than female youth.

Only a few studies provided information regarding the situations and relationships surrounding transactional sex. Those that did suggest a profile of transactional sex in which sellers and buyers often meet through friends, acquaintances, and dating websites. Buyers and sellers are often of a similar age, although about a quarter to half of the buyers is older than the sellers, and money was found to be the most commonly used form of compensation for sellers. The average age of onset for both buyers and sellers was around 15 years (Lavoie et al. 2010; Svedin and Priebe 2007). Despite regional differences in prevalence rates of transactional sex, many of these characteristics seem to be similar across countries. However, some differences were observed. For example, substances are relatively frequently exchanged for sex in Sweden (Fredlund et al. 2013), but not in Sub-Saharan Africa (Moore et al. 2007; Jewkes et al. 2012b), suggesting that the relation between substance use and transactional sex may differ across cultures.

Several individual and interpersonal characteristics are correlated with involvement in transactional sex. Consistent findings across cultures include that selling sex is associated with involvement in other sexual behaviors (e.g., being more promiscuous, having an earlier sexual debut, and having a higher likelihood of consuming pornographic content), substance use, infection with sexually transmitted diseases, mental health problems, family break-up, and a history of victimization. On the other hand, studies have suggested no or mixed relations of socioeconomic and educational status with selling sex (e.g., Svedin and Priebe 2007; Lee et al. 2016). The correlates of buying sex include consumption of pornographic content,

promiscuity, substance use, violence perpetration and, to some extent, higher socioeconomic status. However, research findings on this are less robust compared to selling sex, due to the few studies that have examined buying sex.

One of the challenges in interpreting the current evidence-base regarding the correlates of transactional sex is that it is usually unclear whether they are risk factors, consequences, or mere markers of a broader behavioral issue. For example, although a large number of studies has shown that both sellers and buyers are more likely to consume substances compared to other youth, there has been discussion on the directionality of the relation (e.g., Walle et al. 2012), e.g., whether substance use should be viewed as a cause or a consequence of transactional sex, or whether both are indicators for an underlying trait. The prime reason for this is that the temporal ordering between the factors is unclear, since most studies to date have been cross-sectional.

This study was limited in several ways. First, the search process of this review was not documented using the item checklist on review content and process laid out by the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) guidelines (Moher et al. 2009). However, the review team ensured that the search process was carefully managed: The authors agreed on eligibility criteria for studies, conducted searches in three comprehensive databases using a selected set of keywords in various different combinations, defined a protocol for data extraction and processes to validate data records, and discussed any disagreements among authors. Second, due to the relatively low number of studies that reported on the situations and relationships that surround transactional sex, this review did not make fine-grained distinctions in this section. For example, the review did not report how situations and relationships that surround transactional sex are different by gender. More studies on these aspects of transactional sex would be helpful so that such distinctions can be made in future literature reviews. Third, the cross-sectional nature of the majority of studies prohibits drawing final conclusions about the time order between transactional sex and its correlates. Understanding this time order—through more longitudinal research—is crucial to identify potential pathways into transactional sex and differentiate predictors from consequences of transactional sex. The cultural context may play an important role here, as transactional sex can have different meanings in countries.

Conclusion

Transactional sex among youth, or the casual exchange of sexual favors for money or gifts is raising concerns among public health professionals because of its links to maladaptive outcomes. These include sexually transmitted diseases, violence, and substance use, among others (Dunkle et al. 2007; Svedin and Priebe 2007). Youth are an especially vulnerable group, because they tend to be more prone to risky behaviors, including sexual risk-taking behaviors, and have not yet reached the cognitive maturation to assess the full spectrum of potential negative long-term consequences. To add to the understanding of transactional sex, this review sought to go one step beyond existing studies by summarizing the evidence-base on the prevalence rates, characteristics, and correlates of buying and selling sex among general population samples of youth around the world. Findings from 37 studies across 28 countries revealed large differences between country income groups in terms of prevalence rates, with rates being relatively low in high-income countries and relatively high, but varying, in low-income countries. Furthermore, the findings revealed a fairly consistent (though with some exceptions) set of characteristics and correlates of transactional sex across high-income countries and low-income countries. For example, it was found that transactional sex often occurs in contexts where initial contact between sellers and buyers is established through friends, acquaintances, and dating websites, where the sellers and buyers often already know each other, and where money is the most common form of compensation. The age of onset for both buyers and sellers was around 15 years. Furthermore, buyers and sellers were often of a similar age, but about a quarter to half of all buyers were older than sellers. Correlates of selling sex included involvement in other risky sexual behaviors, substance use, infection with sexually transmitted diseases, mental health problems, family break-up, and childhood victimization. For buying sex, correlates included the consumption of pornographic content, promiscuity, substance use, violence perpetration, and to some extent, higher socioeconomic status. Overall, prior studies provide fertile ground for the development of a more encompassing research agenda on transactional sex that includes a focus on both genders, selling as well as buying activities, the longitudinal predictors of transactional sex, and developmental consequences for adolescents.

Acknowledgements The authors are thankful to members of the Violence Research Centre at the Institute of Criminology of the University of Cambridge for their suggestions and critical insights. In particular, the authors thank Dr. Denis Ribeaud (University of Zurich), Dr. Paolo Campana (University of Cambridge) and Dr. Simone Castello (University of Cambridge) for providing valuable input. The authors are also grateful to Dr. Florian Roessler (University of Cambridge) for his advice and support.

Authors' Contributions MK conceived of the study, participated in its design and coordination and drafted the manuscript; MA participated in the design and coordination of the study, interpretation of the data and helped draft sections of the manuscript; SV refined the methods and search protocol of the study and participated in the interpretation of data; ME participated in the design of the study and the interpretation of the data. All authors read and approved the final manuscript.

Compliance with Ethical Standards

Conflict of interest The authors report no conflicts of interest.

Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

References

References marked with an asterisk (*) indicates studies included in the review.

- Atwood, K.A., Kennedy, S.B., Barbu, E.M., Nagbe, W., Seekey, W., Sirleaf, P., & Sosu, F. (2011). Transactional sex among youths in post-conflict Liberia. *Journal of Health, Population, and Nutrition*, 29, 113–122. <https://doi.org/10.3329/jhpn.v29i2.7853>.
- *Atwood, K.A., Kennedy, S.B., Shamblen, S., Taylor, C.H., Quaque, M., Bee, E.M., & Dennis, B. (2012). Reducing sexual risk-taking behaviors among adolescents who engage in transactional sex in post-conflict Liberia. *Vulnerable Children and Youth Studies*, 7, 55–65. <https://doi.org/10.1080/17450128.2011.647773>.
- Béné, C., & Merten, S. (2008). Women and fish-for-sex: Transactional sex, HIV/AIDS and gender in African fisheries. *World development*, 36(5), 875–899.
- *Betzer, F., Köhler, S., & Schlemm, L. (2015). Sex work among students of higher education: A survey-based, cross-sectional study. *Archives of Sexual Behavior*, 44, 525–528. <https://doi.org/10.1007/s10508-014-0476-y>.
- *Carolina Population Center. (2003). Retrieved from the Carolina Population Center website: <http://www.cpc.unc.edu/projects/addhealth>.
- *Chatterji, M., Murray, N., London, D., & Anglewicz, P. (2005). The factors influencing transactional sex among young men and women in 12 sub-Saharan African countries. *Social Biology*, 52, 56–72. <https://doi.org/10.1080/19485565.2002.9989099>.
- *Choudhry, V. (2015). Trading in sexual currency: Transactional sex, sexual coercion and sexual behaviors among young people in Uganda. (Doctoral thesis, Lund University, Lund, Sweden). Retrieved from: <https://lup.lub.lu.se/search/ws/files/4061537/5156976.pdf>.
- *Choudhry, V., Östergren, P.O., Ambresin, A.E., Kyagaba, E., & Agardh, A. (2014). Giving or receiving something for sex: A cross-sectional study of transactional sex among Ugandan university students. *PLoS One*, 9, e112431. <https://doi.org/10.1371/journal.pone.0112431>.
- Cluver, L., Boyes, M., Orkin, M., Pantelic, M., Molwena, T., & Sherr, L. (2013). Child-focused state cash transfers and adolescent risk of HIV infection in South Africa: A propensity-score-matched case-control study. *The Lancet Global Health*, 1(6), e362–e370.
- *Cottler, L., Helzer, J., & Tipp, J.E. (1990). Lifetime patterns of substance use among general population subjects engaging in high-risk sexual behaviors: Implications for HIV risk. *American Journal of Drug and Alcohol Abuse*, 16, 207–222.
- Curtis, R., Terry, K., Dank, M., Dombrowski, K., & Khan, B. (2008). Commercial sexual exploitation of children in New York City, volume one: The CSEC population in New York City: Size, characteristics and needs. *Center for Court Innovation*, 56, 1–122.
- *De Graaf, H., Meijer, S., Poelman, J., & Vanwesenbeeck, I. (2005). *Seks onder je 25e. Seksuele gezondheid van jongeren in Nederland anno 2005 [Sex under 25: The sexual health of Dutch youth in 2005]*. Delft: Uitgeverij Eburon.
- Dunkle, K. L., Jewkes, R. K., Brown, H. C., Gray, G. E., McIntyre, J. A., & Harlow, S. D. (2004). Transactional sex among women in Soweto, South Africa: Prevalence, risk factors and association with HIV infection. *Social Science & Medicine*, 59(8), 1581–1592.
- *Dunkle, K. L., Jewkes, R., Nduna, M., Jama, N., Levin, J., Sikweyiya, Y., & Koss, M. P. (2007). Transactional sex with casual and main partners among young South African men in the rural Eastern Cape: Prevalence, predictors, and associations with gender-based violence. *Social Science & Medicine*, 65, 1235–1248. <https://doi.org/10.1016/j.socscimed.2007.04.029>.
- Edwards, J. M., Halpern, C. T., & Wechsberg, W. M. (2006a). Correlates of exchanging sex for drugs or money among women who use crack cocaine. *AIDS Education & Prevention*, 18, 420–429. <https://doi.org/10.1521/aeap.2006.18.5.420>.
- *Edwards, J. M., Iritani, B. J., & Hallfors, D. D. (2006b). Prevalence and correlates of exchanging sex for drugs or money among adolescents in the United States. *Sexually Transmitted Infections*, 82, 354–358. <https://doi.org/10.1136/sti.2006.020693>.
- Eller, A. (2016). Transactional sex and sexual harassment between professors and students at an urban university in Benin. *Culture, Health & Sexuality*. <https://doi.org/10.1080/13691058.2015.1123295>.
- Formson, C., & Hilhorst, D.J.M. (2016). The many faces of transactional sex: Women's agency, livelihoods and risk factors in humanitarian contexts: A literature review. (SLRC Working Paper 41). London: Secure Livelihoods Research Consortium, Overseas Development Institute.
- *Fredlund, C., Svensson, F., Svedin, C. G., Priebe, G., & Wadsby, M. (2013). Adolescents' lifetime experience of selling sex: Development over five years. *Journal of Child Sexual Abuse*, 22, 312–325. <https://doi.org/10.1080/10538712.2013.743950>.
- Görge, R., Yansane, M.L., Marx, M., & Millimounou, D. (1998). Sexual behavior and attitudes among unmarried urban youths in Guinea. *International Family Planning Perspectives*, 24, 65–71. <https://doi.org/10.2307/2991927>.
- Gregson, S., Nyamukapa, C.A., Garnett, G.P., Mason, P.R., Zhuwau, T., Caraël, M., & Anderson, R.M. (2002). Sexual mixing patterns and sex-differentials in teenage exposure to HIV infection in rural Zimbabwe. *The Lancet*, 359, 1896–1903. [https://doi.org/10.1016/S0140-6736\(02\)08780-9](https://doi.org/10.1016/S0140-6736(02)08780-9).
- Haley, N., Roy, É., Leclerc, P., Boudreau, J. F., & Boivin, J. F. (2004). HIV risk profile of male street youth involved in survival sex. *Sexually Transmitted Infections*, 80, 526–530. <https://doi.org/10.1136/sti.2004.010728>.
- *Helweg-Larsen, K. (2003). Undersøgelsen: "Hvad vi ikke ved om børn og unge" [What we don't know about children and teenagers]. Paper presented at the Nordic Conference on Prostitution by Pro Center, Copenhagen, Denmark.
- *Jewkes, R., Dunkle, K., Nduna, M., & Shai, N. J. (2012a). Transactional sex and HIV incidence in a cohort of young women in the

- stepping stones trial. *Journal of AIDS & Clinical Research*, 3, 1000158. <https://doi.org/10.4172/2155-6113.1000158>.
- *Jewkes, R., Morrell, R., Sikweyiya, Y., Dunkle, K., & Penn-Kekana, L. (2012b). Transactional relationships and sex with a woman in prostitution: Prevalence and patterns in a representative sample of South African men. *BMC Public Health*, 12, 325. <https://doi.org/10.1186/1471-2458-12-325>.
- *Jewkes, R., Nduna, M., Jama-Shai, N., Chirwa, E., & Dunkle, K. (2016). Understanding the relationships between gender inequitable behaviours, childhood trauma and socioeconomic status in single and multiple perpetrator rape in rural South Africa: Structural equation modelling. *PLoS One*, 11, e0154903. <https://doi.org/10.1371/journal.pone.0154903>.
- Kaufman, C. E., & Stavrou, S. E. (2004). “Bus fare please”: The economics of sex and gifts among young people in Urban South Africa. *Culture, Health and Sexuality*, 6(5), 377–391. <https://doi.org/10.1080/13691050410001680492>.
- Kekovole, J., Karungari, K., Muruli, L., & Josiah, P. (1997). *Reproductive health communication in Kenya: Results of a national information, communication, and education situation survey (Country Report)*. Baltimore: Johns Hopkins Center for Communication Programs.
- Kelly, R. J., Gray, R. H., Sewankambo, N. K., Serwadda, D., Wabwire-Mangen, F., Lutalo, T., & Wawer, M. J. (2003). Age differences in sexual partners and risk of HIV-1 infection in rural Uganda. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, 32, 446–451. <https://doi.org/10.1097/00126334-200304010-00016>.
- *Komba-Malekela, B., & Liljestrom, R. (1994). Looking for men. In Zubeida T.-M. & Rita L. (Eds.), *Chelewa, chelewa. The dilemma of teenage girls*. Sweden: The Scandinavian Institute of African Studies.
- *Lavoie, F., Thibodeau, C., Gagné, M. H., & Hébert, M. (2010). Buying and selling sex in Québec adolescents: A study of risk and protective factors. *Archives of Sexual Behavior*, 39, 1147–1160. <https://doi.org/10.1007/s10508-010-9605-4>.
- Leclerc-Madlala, S. (2003). Transactional sex and the pursuit of modernity. *Social dynamics*, 29(2), 213–233.
- *Lee, T. Y., & Shek, D. T. (2014). Compensated dating and juvenile prostitution in early adolescents in Hong Kong. In D. Shek, R. Sun & C. Ma (Eds.), *Chinese Adolescents in Hong Kong* (pp. 173–199). Singapore: Springer Singapore.
- *Lee, T. Y., & Shek, D. T. L. (2013). Compensated dating in Hong Kong: Prevalence, psychosocial correlates, and relationships with other risky behaviors. *Journal of Pediatric and Adolescent Gynaecology*, 26, S42–S48. <https://doi.org/10.1016/j.jpaga.2013.03.014>.
- *Lee, T.Y., Shek, D.T.L., & Busiol, D. (2016). A longitudinal study of compensated dating and juvenile prostitution behaviors among adolescents in Hong Kong. *Journal of Pediatric and Adolescent Gynaecology*, 29, S31–S37. <https://doi.org/10.1016/j.jpaga.2015.10.006>.
- Luke, N. (2003). Age and economic asymmetries in the sexual relationships of adolescent girls in sub-Saharan Africa. *Studies in Family Planning*, 34, 67–86.
- Luke, N. (2005). Confronting the ‘sugar daddy’ stereotype: Age and economic asymmetries and risky sexual behavior in urban Kenya. *International Family Planning Perspectives*, 31, 6–14. <https://doi.org/10.1363/IFPP.31.06.05>.
- Luke, N., & Kurz, K. (2002). *Cross-generational and transactional sexual relations in sub-Saharan Africa: Prevalence of behavior and implications for negotiating safer sexual practices*. Washington: International Center for Research on Women.
- *Machel, J. (2001). Unsafe sexual behaviour among schoolgirls in Mozambique: A matter of gender and class. *Reproductive Health Matters*, 9(17), 82–89.
- Magni, S., Christofides, N., Johnson, S., & Weiner, R. (2015). Alcohol use and transactional sex among women in South Africa: Results from a nationally representative survey. *PLoS One*, 10(12), 1–15. <https://doi.org/10.5061/dryad.h7d87>.
- Manganja, R. K., Maman, S., Groves, A., & Mbwambo, J. K. (2007). Skinning the goat and pulling the load: Transactional sex among youth in Dar es Salaam, Tanzania. *AIDS Care*, 19, 974–981.
- Matasha, E., Ntembelela, T., Mayaud, P., Saidi, W., Todd, J., Mujaya, B., & Tendo-Wambua, L. (1998). Sexual and reproductive health among primary and secondary school pupils in Mwanza, Tanzania: Need for intervention. *AIDS Care*, 10, 571–582. <https://doi.org/10.1080/09540129848433>.
- McClair, T.L., Hossain, T., Sultana, N., Burnett-zieman, B., Yam, E. A., Hossain, S., & Ahmed, S. (2017). Paying for sex by young men who live on the streets in Dhaka city: Compounded sexual risk in a vulnerable migrant community. *Journal of Adolescent Health*, 60(2), S29–S34. <https://doi.org/10.1016/j.jadohealth.2016.09.024>.
- Meekers, D., & Calvès, A.E. (1999). Gender differentials in adolescent sexual activity and reproductive health risks in Cameroon. *African Journal of Reproductive Health*, 3(2), 51–67.
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of internal medicine*, 151(4), 264–269.
- Moore, A. M., Biddlecom, A. E., & Zulu, E. M. (2007). Prevalence and meanings of exchange of money or gifts for sex in unmarried adolescent sexual relationships in sub-Saharan Africa. *African Journal of Reproductive Health*, 11(3), 44–61. <https://doi.org/10.2307/25549731>.
- *Mossige, S. (2001). Ungdoms holdinger til seksuelle krenkelser og overgrep. Ungdummers oppfanging av barn som legitime mål for seksuelle handlingar. NOVA Rapport 16/01. Oslo: Norsk institutt for forskning om oppvekst, velferd og aldring.
- *Mossige, S., & Abrahamsen, S. (2007). The Baltic Sea regional study on adolescents sexuality. Resultater fra den norske delen av studien. NOVA.
- Moynihan, M., Mitchell, K., Pitcher, C., Havaei, F., Ferguson, M., & Saewyc, E. (2018). A systematic review of the state of the literature on sexually exploited boys internationally. *Child Abuse and Neglect*, 76, (2018) 440–451.
- Mustanski, B., Byck, G. R., Dymnicki, A., Sterrett, E., Henry, D., & Bolland, J. (2013). Trajectories of multiple adolescent health risk behaviors in a low-income African American population. *Development and Psychopathology*, 25(4 Pt 1), 1155–1169.
- Nnko, S., Chiduo, B., Mwaluko, G., & Urassa, M. (2001). Pre-marital sexual behaviour among out-of-school adolescents: Motives, patterns and meaning attributed to sexual partnership in rural Tanzania. *African Journal of Reproductive Health*, 5(3), 162–174. <https://doi.org/10.2307/3583333>.
- Nnko, S., & Pool, R. (1997). Sexual discourse in the context of AIDS: Dominant themes on adolescent sexuality among pupils in Magu District, Tanzania. *Health Transition Review*, 7, 85–90. <https://doi.org/10.2307/40608690>.
- Norris, A. H., Kitali, A. J., & Worby, E. (2009). Alcohol and transactional sex: How risky is the mix? *Social Science & Medicine*, 69, 1167–1176. <https://doi.org/10.1016/j.socscimed.2009.07.015>.
- *Nyanzi, S., Pool, R., & Kinsman, J. (2001). The negotiation of sexual relationships among school pupils in south-western Uganda. *AIDS Care*, 13, 83–98. <https://doi.org/10.1080/09540120020018206>.
- *Okigbo, C. C., McCarragher, D. R., Chen, M., & Pack, A. (2014). Risk factors for transactional sex among young females in post-conflict Liberia. *African Journal of Reproductive Health*, 18(3), 133–141.
- Oldenburg, C. E., Perez-Brumer, A. G., Reisner, S. L., Mattie, J., Bärnighausen, T., Mayer, K. H., & Mimiaga, M. J. (2014). Global burden of HIV among men who engage in transactional sex: A systematic review and meta-analysis. *PLoS One*, 9, e103549. <https://doi.org/10.1371/journal.pone.0103549>.

- *Pedersen, W., & Hegna, K. (2003). Children and adolescents who sell sex: A community study. *Social Science & Medicine*, 56, 135–147. [https://doi.org/10.1016/S0277-9536\(02\)00015-1](https://doi.org/10.1016/S0277-9536(02)00015-1).
- *Population Reference Bureau. (2001). *Sexual violence against young women. The world's youth 2000*. Washington: Population Reference Bureau.
- *Ranganathan, M., Heise, L., Pettifor, A., Silverwood, R. J., Selin, A., MacPhail, C., & Piwowar-Manning, E. (2016). Transactional sex among young women in rural South Africa: Prevalence, mediators and association with HIV infection. *Journal of the International AIDS society*, 19, 20749. <https://doi.org/10.7448/IAS.19.1.20749>.
- Reid, J. A., & Piquero, A. R. (2014). Age-graded risks for commercial sexual exploitation of male and female youth. *Journal of Interpersonal Violence*, 29, 1747–1777. <https://doi.org/10.1177/0886260513511535>.
- *Renzaho, A. M. N., Kamara, J. K., Georgeou, N., & Kamanga, G. (2017). Sexual, reproductive health needs, and rights of young people in slum areas of Kampala, Uganda: A cross sectional study. *PLoS One*, 12(1), 1–21. <https://doi.org/10.1371/journal.pone.0169721>.
- Rutstein, S. O., & Rojas, G. (2006). *Guide to DHS Statistics. Demographic and Health Surveys Methodology*. Calverton: USAID.
- Saphira, M., & Oliver, P. (2002). A review of literature on child prostitution. *Social Policy Journal of New Zealand*, 19, 141–163.
- Song, J., & Morash, M. (2016). Materialistic desires or childhood adversities as explanations for girls' trading sex for benefits. *International Journal of Offender Therapy and Comparative Criminology*, 60(1), 62–81. <https://doi.org/10.1177/0306624X14543769>.
- Stoebenau, K., Heise, L., Wamoyi, J., & Bobrova, N. (2016). Revisiting the understanding of “transactional sex” in sub-Saharan Africa: A review and synthesis of the literature. *Social Science & Medicine*, 168, 186–197. <https://doi.org/10.1016/j.socscimed.2016.09.023>.
- *Svedin, C. G., & Priebe, G. (2007). Selling sex in a population-based study of high school seniors in Sweden: Demographic and psychosocial correlates. *Archives of Sexual Behavior*, 36, 21–32. <https://doi.org/10.1007/s10508-006-9083-x>.
- *Svensson, F., Fredlund, C., Svedin, C. G., Priebe, G., & Wadsby, M. (2013). Adolescents selling sex: Exposure to abuse, mental health, self-harm behaviour and the need for help and support—a study of a Swedish national sample. *Nordic Journal of Psychiatry*, 67, 81–88. <https://doi.org/10.3109/08039488.2012.679968>.
- *Thoresen, M. (1995). Ung fritid I Trondheim. UNG forsk-rapport 2/59 Oslo: Ungforsk.
- United Nations (2013). Definition of youth. Retrieved from the United Nations website: <http://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf>.
- *Vejle Amt. (2005). *Trivselundersøgelse blandt 9. klasseelever i Vejle Amt efteråret 2004*. Vejle: Vejle Amt.
- Walle, R., Picavet, C., van Berlo, W., & Verhoeff, A. (2012). Young Dutch people's experiences of trading sex: A qualitative study. *Journal of Sex Research*, 49(6), 547–557.
- Wamoyi, J., Fenwick, A., Urassa, M., Zaba, B., & Stones, W. (2011). “Women's bodies are shops”: Beliefs about transactional sex and implications for understanding gender power and HIV prevention in Tanzania. *Archives of sexual behavior*, 40(1), 5–15.
- *Weiss, E., Whelan, D., & Rao Gupta, G. (1996). *Vulnerability and opportunity: Adolescents and HIV/AIDS in the developing world*. Washington: International Centre for Research on Women.
- World Bank (2017). World Bank Country and Lending Groups. Retrieved from the World Bank website: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>.
- World Health Organization. (1992). *A study of the sexual experience of young people in eleven African countries: The narrative research method*. Geneva: Adolescent Health Programme, Division of Family Health.
- *Zembe, Y.Z., Townsend, L., Thorson, A., Silberschmidt, M., & Ekstrom, A. M. (2015). Intimate partner violence, relationship power inequity and the role of sexual and social risk factors in the production of violence among young women who have multiple sexual partners in a peri-urban setting in South Africa. *PLoS One*, 10, e0139430. <https://doi.org/10.1371/journal.pone.0139430>.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.